

REMARKS/ARGUMENTS

The claims are not amended; no new matter is added.

The obviousness rejection based on Ushikubo, Lugmair, Sun, and Schunk is traversed.

In present process Claim 7, pre-made solutions, emulsions and or dispersions (for ease of argument hereinafter solutions) are metered, in changing ratios relative to each other, into a mixing apparatus. During the metering, a total additive stream from the metered solutions remains constant. The resulting individual mixtures are each removed from the mixing apparatus and continuously dried by spray drying or spray-freeze drying thereby producing dried mixtures, each of which constitutes a solid member of a library of different solids produced by the claimed process.

Ushikubo describes a “process for preparing a catalyst”¹ by “drying a solution or slurry containing molybdenum, vanadium and tellurium by a spray drying or a freeze-drying method and heat treating the resulting dried product.”² Ushikubo does not describe or suggest the claimed features: i) where the ratios of the solutions are repeatedly changed, or ii) the continuous spray or spray-freeze drying of the mixtures resulting from the changed ratios, because Ushikubo is not concerned with producing a library of different solids.

Ushikubo’s deficiency is acknowledged by the Office: “Ushikubo...does not expressly define continuously metering and drying to obtain solids and changing ratios...”³ Further, Ushikubo does not describe or suggest the claimed feature that during the metering, a total additive stream from the metered solutions remains constant, because Ushikubo is silent with respect to mixing different solutions to form mixtures that will eventually become solids.

The Office attempts to cure Ushikubo’s myriad deficiencies by relying upon

¹ See Ushikubo, Abstract.

² Id.

³ See Official Action pages 2-3.

Lugmair, Sun, and Schunk, but these references fail, alone or in combination, to describe or suggest every feature of the claimed process, and this is explicitly admitted by the Office.

The Office relies upon Lugmair, paragraph 52, to describe “that four or more catalyst materials are simultaneously synthesized on [a] substrate by known [techniques] including solvent evaporation, precipitation, sol-gel, spray drying, etc, to make a combinatorial library.”⁴ But Lugmair does not describe or suggest that different solids can be obtained by producing at least two different sprayable solutions and a total additive stream from the metered solutions remains constant while ratios of the solutions in the streams is varied and continuously drying the varied ratio mixtures to obtain a library of solids with changed component ratios. Indeed, Lugmair is primarily concerned with mechanical treatments of materials, including grinding, pressing, integrated crushing, sieving, and fractionating of materials.⁵ The Office acknowledges that “Lugmair does not teach [a] process of sequential synthesis and changing ratios...”⁶ Lugmair fails to cure any of the deficiencies of Ushikubo.

Sun is drawn to a “combinatorial method...for the preparation and screening of heterogeneous catalysts.”⁷ Sun’s method comprises “the steps of (I) providing a library of elemental catalysts; (II) reacting the catalysts with a carbon source to form product directly on the catalyst; and (III) screening the products to evaluate the catalysts.”⁸ Sun describes that: “[c]ombinatorial methods used for synthesizing catalysts for carbon include a thin film catalysts library and a powder catalysts library”⁹ and that “catalystst may be deposited on the

⁴ See Official Action page 3.

⁵ See Lugmair, at paragraphs 7 and 9.

⁶ See Official Action page 3.

⁷ See Sun, Abstract.

⁸ Id.

⁹ Id., at column 2, lines 10-13.

substrate sequentially or preferably, simultaneously.”¹⁰ Sun does not, however, describe or suggest a total additive stream from metered solutions remains constant while ratios of the solutions in the streams is varied and continuously drying the varied ratio mixtures to obtain a library of solids with changed component ratios. Towards this end, the Office acknowledges that “Sun does not teach changing ratios.”¹¹ The Office’s admission, while welcome, is incomplete. Sun does not remedy the deficiencies of Lugmair and Ushikubo.

Finally, the Office attempts to cure the deficiencies of Sun, Lugmair, and Ushikubo through the disclosure of Schunk. The Office acknowledges that “Schunk does not expressly mention changing the ratios in step b and repeating step b, c, and d until N different solids are obtained.”¹² Having admitted that the cited references do not describe or suggest all of the features of present process claims, the Office should legally conclude that the obviousness rejection is improper,¹³ and allow the claims. Instead, the Office goes through a labored attempt to “fill in” the missing claim limitations because doing so would have been “obvious.”¹⁴ The Office’s labored attempt is based on improper hindsight supplied by Applicants’ specification. The applied references do not, as admitted by the Office, describe or suggest all of the features of Claim 7 and the claims therefrom, and the Office impermissibly relies on hindsight to supply the missing claim features, so the obviousness rejection is improper. Withdrawal of the obviousness rejection is requested on these bases alone.

¹⁰ Id.

¹¹ See Official Action page 3.

¹² Id., at page 4.

¹³ See CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing In re Royka, 490 F.2d 981, 985 (CCPA 1974)). (“Obviousness requires a suggestion of all limitations in a claim”).

¹⁴ See Official Action page 4.

Additionally, specification page 9, line 29, through page 10, line 1, describes that the claimed inventive embodiments have “the advantage that the control of the mixing action and the drying action does not have to be renewed for each different catalyst composition, but is set once and then remains constant in the process.” This superior result is not described or suggested by the cited references, so based on the cited references, the superior result is also unexpected. Applicants submit this superior and unexpected result is exactly the type of secondary consideration envisioned by the M.P.E.P. to address a *prima facie* case of obviousness. Withdrawal of the rejection is requested on this basis alone.

In light of the arguments presented herein, Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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MAIER & NEUSTADT, L.L.P.
J. Derek Mason

A handwritten signature in dark ink, appearing to read 'CJ Andres', is written over a horizontal line.

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